

Insights:
Seed
Technology

The Seeds of Product Opportunity

Application of developed technologies from one industry to another is a powerful way to accelerate product development efforts – while reducing cost and risk.

Imagine...

Materials designed for **chemical warfare clean-up** can provide effective **tooth whitening**.

Devices used for **inventory tracking** and management can be repurposed as **biological diagnostic and feedback** devices.

Ingredients from **dessert recipes** that can be used as safe and effective **anti-bacterial wound treatments**.

Food industry waste products that can be reused as an approved ingredient **for joint pain relief**.

Each of these examples is a real result from recent BIC projects focused on developing disruptive products with a high likelihood of success. There are two keys to selecting technologies that can make a difference.

Technology Organization – Knowing If It Applies.

Having an organized system to catalog technologies and know if they apply to new challenges is half the battle. **Seed technologies are at the heart of BIC's successful product innovation results.** Seed technologies are BIC's equivalent of elements in the periodic table – bits that can be used and combined to create new things.

The quest for Seed Technologies begins with identifying customer needs for the product area of interest. BIC goes beyond needs expressed through traditional market research to discover those Constituent Needs that get down to the detail required to really produce something that addresses unmet and, up to this time, unarticulated problems.

One element of BIC's search for technologies begins with mining our internal database. Over the course of many, many assignments in different industries, BIC has assembled an organized database of new, interesting, and potentially game-changing technologies. Many of the technologies have found application in industries far removed from their original targets. This is the core of Open Innovation and BIC's unique approach to innovative products.

In order to make use of the thousands of technologies in **BIC Technology Database**, serious thought was given to its organization. Our Seed Technologies are defined and organized by:

Effect Areas signify the intended effect of the seed technology – WHAT it does. Over 50 effect areas cover a range from Bacteria Detection to Ultrasonic Cleaning to Medical Diagnostics

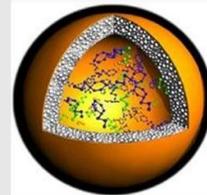
Technology Sets form a natural grouping of technologies related to HOW they work. They are represented in the database by groups such as Controlled Release and Energy Storage.

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Sources and Suppliers for Seed Technologies are identified, along with relevant contacts **Supporting Evidence and Documents** are attached to each item in the database, and can include pertinent clinical trial results, research reports, academic studies, patents, papers, or other information that provides a thorough understanding of the technology.

Below is a summary description of a sample seed technology for a moisture triggered encapsulation technology:

ID	Seed Technology	Technology Set	Technology Description
1225	Encapsulation for anhydrous products triggered by body moisture	Controlled Release	<p>SalSeal™ are water sensitive microspheres that retain and protect ingredients to prolong shelf life. SalSeal™ can be incorporated into anhydrous products to provide controlled release of ingredients in response to body moisture. SalSeal™ consists of water-, pH-, and enzyme-sensitive microspheres. Each microsphere has an average particle size between 10 to 50 microns.</p> <p>Improved stability of functional ingredients in anhydrous bases</p> <p>Prolonged product shelf life</p> <p>Minimize oxidation of the functional ingredients</p> <p>High retention of volatile ingredients</p> <p>Provide moisture-, pH, or enzyme-triggered release to turn system on or off</p> <p>Provides sustained-release concentration versus time profile by the modification of dissolution, swelling, and hydrolysis rates of the microspheres</p> <p>A high impact "burst" of sensory markers in response to moisture, thereby signaling that the product has been activated. The "burst" is achieved by formulating the ingredients that are encapsulated in SalSeal™, and the matrix materials. The interaction with water results in increasing their relative content in the headspace</p>
		Leading Source	Salvona Technologies



PEPSICO Manager of Innovation:

"I appreciate BIC's methodical approach, technical savvy and being able to cross reference between different industries to inspire innovative ideas."

Technology Evaluation – Knowing if it's Good.

Each and every Seed Technologies is ranked according to four important dimensions: Competitive Impact, Time to Availability, Technology Complexity, and Access. Seed Technologies are compared to each other for the target application, and those which best meet the four criteria are flagged for further consideration.

Competitive Impact

1	2	3	4	5
Commodity	Competitive	Superior	Differentiating	Disruptive

Time to Availability

>5 years	3-5 years	3 years	1-3 years	<1 year
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Technology Complexity

New knowledge requires discovery	Knowledge developing – IP Filings	Known industry development initiative	Recently Introduced	Available and Proven
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Access

Competitor owns rights	University / Research Institute owns rights	Individual inventor owns rights	Non-competitor owns rights	Client company owns rights
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The Power of Seed Technologies.

BIC's approach to creating innovative products is grounded by need-driven technologies. Our database is one of the tools that enables us to consistently deliver results for our clients.